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Could

(b) a copolymer of ethylene with at least one alpha-olefin, and optionally with a diene, said copolymer (b) having a density of from 0.860 to 0.904 g/cm³, and having a composition distribution index greater than 45%, said index being defined as the weight percentage of copolymer molecules having an alpha-olefin content within 5% of the average total molar content of alpha-olefin;

(c) natural magnesium hydroxide in an amount such as to impart flame-retardant properties;

wherein at least one of the polymeric components (a) and (b) contains hydrolyzable organic silane groups grafted onto the polymer chain for compatibilization of the natural magnesium hydroxide with the polymeric components.

29. (Amended) A flame-retardant composition comprising:

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(a) an ethylene homopolymer or copolymer having a density of from 0.905 to 0.970 g/cm³, wherein said ethylene homopolymer or copolymer are: ethylene homopolymers; copolymers of ethylene with an alpha-olefin; copolymers of ethylene with an ethylenically unsaturated ester; or mixtures thereof;

(b) a copolymer of ethylene with at least one alpha-olefin, and optionally with a diene, said copolymer (b) having a density of from 0.860 to 0.904 g/cm³, and having a composition distribution index greater than 45%, said index being defined as the weight percentage of copolymer molecules having an alpha-olefin content with 50% of the average total molar content of alpha-olefin;

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(c) natural magnesium hydroxide in an amount such as to impart flame-retardant properties;
wherein at least one of the polymeric components (a) and (b) contains hydrolyzable organic silane groups grafted onto the polymer chain for compatibilization of the natural magnesium hydroxide with the polymeric components.

30. (Amended) A method for producing a self-extinguishing cable, said method comprising the following steps: (1) preparing a polymer mixture having flame-retardant properties; and (2) extruding said mixture on a conductor optionally pre-coated with an insulating layer, wherein step (1) comprises mixing a polymer matrix with a predetermined amount of natural magnesium hydroxide, and further adding to said polymer matrix a radical initiator and an organic silane compound containing at least one hydrolyzable group and at least one ethylenically unsaturated hydrocarbon group, in order to obtain grafting of hydrolyzable organic silane groups onto the polymer chains for compatibilization of the natural magnesium hydroxide with the polymeric matrix; said polymer matrix comprising:

(a) an ethylene homopolymer or copolymer having a density of from 0.905 to 0.970 g/cm³, wherein said ethylene homopolymer or copolymer are: ethylene homopolymers; copolymers of ethylene with an alpha-olefin; copolymers of ethylene with an ethylenically unsaturated ester; or mixtures thereof;

(b) a copolymer of ethylene with at least one alpha-olefin, and optionally with a diene, said copolymer (b) having a density of from 0.860 to 0.904

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